



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,354	09/22/2005	Adalbert Huber	MERCK-2968	3006
23599 7590 03/31/2010 MILLEN, WHITE, ZELANO & BRANIGAN, P.C. 2200 CLARENDON BLVD. SUITE 1400 ARLINGTON, VA 22201				
			EXAMINER WEDDELE, ALEXANDER MARION	
			ART UNIT 1792	PAPER NUMBER
			NOTIFICATION DATE 03/31/2010	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@mwzb.com

Office Action Summary**Application No.**

10/519,354

Applicant(s)

HUBER, ADALBERT

Examiner

ALEXANDER WEDDLE

Art Unit

1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 11-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/GS/US)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 05, 2010 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 1-9 and 11-20 have been considered but are moot in view of the new ground(s) of rejection necessitated by amendment.
3. The amendments of Claims 1, 11, and 17 are sufficient to overcome the rejection of Claims 1-13, 15-17, and 19-20 under 35 U.S.C. 102(e) as anticipated by Faris, of Claims 17 and 18 under 35 U.S.C. 102(b) as anticipated by Yukinobu et al., and of Claims 1 and 14 as anticipated by Elfenthal et al. However, because of the amendments, the international application publication of Faris (WO 2003/096384) is applied either separately or in combination with the prior art references relied on in the previous Office Action under new statutory ground(s) as unpatentable under 35 U.S.C. 103(a).

Claim Objections

4. Claim 12 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Because the preamble recites a curing or drying additive and Claim 11 is the only preceding claim which claims a composition, Examiner will treat Claim 12 as depending from Claim 11.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 1-9, 11-17 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Faris (WO 2003/096384).

Regarding Claims 1, 3-6, 8, 15-16, and 21, Faris (WO'384) suggests a method of coating with transparent conductive ink, comprising the steps of adding ("mixing") to a

surface-coating composition or printing ink one or more pale or transparent particulate semiconductor materials, including indium tin oxide, zinc oxide, doped zinc oxide, and doped tin oxide in spherical or flake-form; applying to a surface the ink or surface-coating composition to form a surface-coating layer; and drying the surface-coating layer or ink (Abstract; p. 5, lines 10-16; p. 7, lines 5-14). WO'384 suggests that such surface coating compositions or printing inks dry more easily (p. 11, lines 10-15).

WO'384 is silent as to the concentration of the one or more pale or transparent particulate semiconductor materials. Generally, differences in concentration will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating that the concentration is critical.

Regarding Claim 2, WO'384 teaches that the one or more pale or transparent semiconductor materials are homogeneous in structure (p. 6, lines 11-23; p. 8, lines 8-11; Claims 17, 20, 21).

Regarding Claim 7, Claim 1 recites "... pale or transparent [] materials or one or more particulate substrates . . .", and the language of Claim 7 does not require substrates coated with the semiconductor materials; claim 7 implies only that if a substrate were required, it would be selected from the group consisting of ..." WO'384 teaches that a substrate for metal oxide semiconductor is silicon [di]oxide flakes (p. 1, lines 13-18).

Regarding Claim 9, the semiconductor of WO'384 is an element either of a set of amorphous (or noncrystalline) semiconductors or of a set of crystalline (or "morphous") semiconductors, since these are complementary sets.

Regarding Claim 13, while not precluding other drying/ curing steps, WO'384 teaches a step of "normal room temperature drying of ink based applications" which clearly envisions drying the surface coating layer or the printing ink in air (p. 7, lines 9-14; p. 11, lines 10-15).

Regarding Claim 14, WO'384 does not particularly limit the coating layer to a particular surface, and to the extent that WO'384 suggests that the conductive ink can be used where transparency is desired (e.g. for windows for transportation) and for antennae, WO'384 would have suggested that the method can be performed on an automobile (i.e. as an automobile paint) (p. 11, lines 10-15). Examiner notes that to the extent that Claim 14 merely characterizes the coating layer as "an automobile paint," such characterization does not carry significant patentable weight since it does not further limit the method. Moreover, that the composition may be called "automobile paint" does not mean that the paint is necessarily applied to the surface of an automobile.

Regarding Claim 17 and 19-20, WO'384 suggests a method comprising adding to printing ink one or more pale or transparent particulate materials (p. 4, lines 15-16; p. 5, line 7-p. 6, line 2; p. 7, lines 5-17). The step of adding such materials to a surface-coating layer or printing ink would have produced the result of drying or curing the surface-coating layer or printing ink. WO'384 suggests that such surface coating compositions or printing inks dry more easily (p. 11, lines 10-15).

WO'384 is silent as to the concentration of the one or more pale or transparent particulate semiconductor materials. Generally, differences in concentration will not

support the patentability of subject matter encompassed by the prior art unless there is evidence indicating that the concentration is critical.

WO'384 suggests that the composition would allow the ink or surface coating composition to dry more quickly, since it dries more easily, but does not teach the extent to which the drying time or curing time is shortened. It would have been obvious to a person of ordinary skill in the art at the time of invention to modify the method of WO'384 by adding suitable carriers as suggested by WO'384 to reduce the drying time by the time recited by the claim.

Regarding Claim 11, WO'384 teaches a printing ink composition comprising one or more pale or transparent particulate semiconductor materials, such as ZnO or indium tin oxide (Abstract; p. 5, lines 7-16; p. 7, lines 9-17). WO'384 suggests that the composition as claimed would have acted as a drying agent (p. 11, lines 10-15).

WO'384 is silent as to the concentration of the one or more pale or transparent particulate semiconductor materials. Generally, differences in concentration will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating that the concentration is critical.

Regarding Claim 12, WO'384 teaches a composition consisting essentially of particulate substrates coated with pale or transparent semiconductor materials (Abstract; p. 5, lines 7-16; p. 7, lines 9-17). The composition as claimed would have acted as a drying agent (p. 11, lines 10-15).

8. Claims 1, 5-6, 17, 18, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yukinobu et al. (US 5,411,792).

Regarding Claims 1, 5, 6 and 21, Yukinobu et al. (US'792) teach a method for applying a printing ink, comprising the steps of applying a transparent conductive ink, containing "ITO," to a surface to form a surface-coating layer and curing or drying the surface-coating layer (col. 2, lines 21-53; col. 2, line 62 to col. 3, line 14; col. 5, lines 14-20).

US'792 is silent as to the concentration of the one or more pale or transparent particulate semiconductor materials. Generally, differences in concentration will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating that the concentration is critical.

Regarding Claim 17, US'792 teaches drying and/or curing the semi-conductor materials, but does not teach the extent to which the composition shortens curing or drying time. It would have been obvious to a person of ordinary skill in the art at the time of invention to modify the process of US'792 by adjusting the ratio of components or to adjust the amount of carrier/ solvent to solids in order to achieve the desired rate of drying, where US'792 teaches that curing and/or drying is desirable.

Regarding Claim 18, US'792 teaches that the surface-coating layer cures by IR radiation (Fifteenth embodiment, col. 13, lines 23-29; Twenty-third embodiment, col. 16, lines 57-68).

9. Claims 1, 14, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elfenthal et al. (US 5,215,580).

Regarding Claims 1, 14, and 21, Elfenthal et al. (US'580) teach a process of producing a transparent metal oxide pigment comprising a step of adding to the surface-

coating layer one or more pale or transparent particulate semiconductor materials (Abstract; col. 1, lines 18-22) and suggest the steps of adding the pigment to a paint for an automobile paint coating, which disclosure naturally implies conventional painting techniques, including the steps of applying the coating to the surface of a car and curing or drying the composition (col. 1, lines 6-13 and 35-46).

US'580 is silent as to the concentration of the one or more pale or transparent particulate semiconductor materials. Generally, differences in concentration will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating that the concentration is critical.

Conclusion

10. No Claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEXANDER WEDDLE whose telephone number is (571) 270-5346. The examiner can normally be reached on Monday-Thursday, 7:30 AM - 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Kornakov can be reached on (571)272-1303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. W./
Examiner, Art Unit 1792
/Michael Kornakov/
Supervisory Patent Examiner, Art Unit 1792